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Claims

What is claimed is:

1. A method of printing sheer fabric, the method comprising the steps of
providing a supply of the sheer fabric and a supply of a release substrate having a width less than the width of the sheer fabric;
applying a low tack adhesive to an endless belt;
combining the sheer fabric and the release substrate such that the edges of the fabric overhang the edges of the release substrate;
temporarily affixing the overhanging edges of the sheer fabric and the release substrate to the endless belt with the low tack adhesive;
conveying the sheer fabric through one or more printing stations;
printing at least one color ink on the sheer fabric at the one or more printing stations;
drying the ink; and
separating the sheer fabric from the release substrate.
2. The method of claim 1 wherein the step of providing the release substrate comprises the step of obtaining or making a substrate with a release force of less than 800 grams per 2.54 centimeters.
3. The method of claim 1 wherein the drying step comprises an intermediate drying step at an intermediate drying station after each of the one or more printing steps and a final drying step at a final drying station after all of the printing and intermediate drying steps.
4. The method of claim 3 further comprising the step of separating the fabric and release substrate from the endless belt after the intermediate drying steps and before the final drying step.
5. The method of claim 4 wherein the step of separating the fabric and the release substrate is performed after the final drying step.
6. The method of claim 1 wherein the applying step comprises dripping lines of the low tack adhesive from an adhesive applicator onto the endless belt as the belt is moving.
7. The method of claim 6 further comprising the step of reciprocating the adhesive applicator away from the endless belt after the applying step.

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8. The method claim 1 further comprising the step of adding silica to the ink before the printing step.

9. The method of claim 8 wherein the amount of silica added to the ink is adequate to form an ink mixture of between about 0.3 and about 4.0 percent by weight of silica.

10. The method of claim 8 wherein the amount of silica added to the ink is adequate to form an ink mixture having a viscosity greater than 6,000 centipoise.

11. A method of printing sheer fabric comprising the steps of:
temporarily combining a release substrate and the sheer fabric on an endless belt using a single coating of adhesive;

running the combined sheer fabric and release substrate on the endless belt through one or more printing stations where ink is applied to the fabric and ink strikethrough coming through the sheer fabric contacts with the release substrate, and an intermediate drying station after each printing station;
separating the fabric and release substrate from the endless belt;
drying the combined fabric and release substrate at a final drying station; and
separating the sheer fabric and release substrate.

12. The method of claim 11 wherein the ink applied has a viscosity of greater than 6000 centipoise;

13. The method of claim 11 wherein the ink applied comprises greater than about 0.3 weight percent silica.

14. The method of claim 11 wherein the temporarily combining step comprises the step of bringing together the sheer fabric and release substrate onto an endless belt such that the edges of the sheer fabric overhang the edges of the release substrate so that the overhanging edges and the release substrate contact the endless belt.

15. The method of claim 14 wherein the overhanging edges of the fabric and the release substrate are temporarily affixed to the endless belt with a low tack adhesive when the overhanging edges and the release substrate contact the endless belt.

16. The method of claim 11 wherein the sheer fabric is tubular and the temporarily combining step comprises the steps of inserting the release substrate into the tubular sheer fabric and adhering the sheer fabric on one side of the release substrate to the endless belt.

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17. The method of claim 11 wherein the release substrate has a release force of less than 800 grams per 2.54 centimeters.

18. A method of screen printing sheer fabric comprising the steps of:
combining a release substrate and the sheer fabric on an endless belt by covering the release substrate with the sheer fabric such that edges of the sheer fabric overhang the release substrate and contact the endless belt;
temporarily adhering the overhanging edges of the sheer fabric to the endless belt;
conveying the combined release substrate and sheer fabric through one or more printing stations having a screen printing unit and an intermediate drying station;
at each of the one or more printing stations, screen printing an image on the sheer fabric, allowing ink strikethrough to collect on the release substrate, and at least partially drying the ink;
further drying the ink at a final drying station; and
separating the release substrate and sheer fabric.

19. The method of claim 18 wherein the screen printing step comprises applying an ink having a viscosity of greater than 6000 centipoise.

20. The method of claim 19 further comprising the step of adding silica to the ink prior to the printing step.

21. The method of claim 18 further comprising the step of coating a low tack adhesive on the endless belt prior to the combining step.

22. The method of claim 18 wherein the combining step comprises the steps of bringing the release substrate into contact with the endless belt and bringing the sheer fabric into contact with the release substrate such that the edges of the fabric overhang the release substrate and contact the endless belt.

23. The method of claim 18 wherein the sheer fabric is a tubular structure and the combining step comprises the steps of placing the release substrate inside the tubular structure and bringing the tubular structure into contact with the endless belt.

24. A method of printing sheer fabric, the method comprising the steps of:
mixing an ink composition with a thixotropic agent;
combining the sheer fabric with a release substrate such that the sheer fabric and release substrate are fixed relative to one another;

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screen printing the ink onto the sheer fabric side of the combined sheer fabric and release substrate such that ink strikethrough collects on the release substrate;
drying the ink; and
separating the sheer fabric and the release substrate.

25. The method of claim 24 wherein the mixing step comprises adding silica to the ink mixture.

26. The method of claim 24 wherein the mixing step comprises adding silica to the ink mixture at a weight percent of between 0.3 percent and 4.0 percent.

27. The method of claim 24 wherein the mixing step comprises adding a thixotropic agent to the ink until the ink has a viscosity of greater than 6,000 centipoise.

28. The method of claim 24 wherein the mixing step comprises adding a thixotropic agent to the ink until the ink has a viscosity of greater than 7,000 centipoise, but can still flow through a screen with a mesh count of 150 per inch under influence of a squeegee.

29. A method of printing sheer fabric comprising the steps of:
providing the sheer fabric;
mixing an ink composition with a thixotropic agent in an amount sufficient to provide the ink with a viscosity greater than 6,000 centipoise, but so the ink can flow through a screen with a mesh count of 150 per inch under influence of a squeegee; and
applying the ink to the sheer fabric in a pre-selected pattern.

30. The method of claim 29 wherein the mixing step comprises the step of adding silica to the ink.

31. The method of claim 29 wherein the mixing step comprises the step of adding silica to the ink composition in an amount of from 0.3 percent to 4.0 percent by weight.